

## **Site or Subdivision Construction Plans**

**\*REVISED 7/04/2019 – Approved by UTFB 8/02/19\***

**Project Title:** \_\_\_\_\_

**Project Location:** \_\_\_\_\_

**Applicant/Owner:** \_\_\_\_\_

**Design Engineer:** \_\_\_\_\_

### **First Sheet or Cover Sheet**

- ( ) 1. Name of Project(Phase if applies), Tax Map and Parcel, Zoning
- ( ) 2. Design Engineer & Legal Owner's name, address, phone, fax and email
- ( ) 3. Location Map, Index and Legend
- ( ) 4. Total site acreage, disturbed acreage (include any offsite borrow or disposal areas if not separately permitted by Wilson County)
- ( ) 5. Total number of lots(subdivision) or Impervious Area (site plan)
- ( ) 6. Engineers signed seal, Date, and Revision Dates (all sheets)

### **General Plan Information**

- ( ) 1. North Arrow and Scale (all sheets)
- ( ) 2. Existing topography sheet (field shot 2' interval topography, with high & low point spot elevations; **60' beyond property line**) with all existing drainage features, easements, utilities, structures, any sewage disposal system, and the onsite reference permanent benchmark.(NAVD – 88)
- ( ) 3. Proposed grading (2'interval with spot elevations at critical locations), drainage and erosion control plans in accordance with latest State CGP requirements. (Initial and final erosion control sheets with additional interim sheet for sites with disturbed area over 5 acres.)
- ( ) 4. Sinkhole/depressions, wetlands, streams, floodplain or other critical environmental features must be identified on these plans with construction or silt fence protection.
- ( ) 5. Proposed utility locations without details must be shown on above plans.

### **Detailed Plan Information**

- ( ) 1. Show all outfalls at boundary of site or at waters of state with latitude and longitude, total drainage area (DA), disturbed area, any diverted area and slope variation over the DA.
- ( ) 2. Show limits of construction disturbance vs undisturbed areas.
- ( ) 3. Areas to be left undisturbed must be shown on plan with the field marking measure surrounding undisturbed areas noted. (orange fence, silt fence painted Do Not Disturb, ect)
- ( ) 4. Show PUDE's and drainage easements (20 ft wide minimum with at least 5' beyond top of bank of any channel). If the site drains to or through adjacent property(ies), drainage easements will be required to Outfall locations.
- ( ) 5. Drainage pipes at lot lines extended to at least 40' past front setback into property. (except at streams or box culverts)
- ( ) 6. All drainage pipes shall have a min 0.5% slope unless special approval is given.

- ( )7. Show all erosion/sediment control measures and pollution prevention practices.(Concrete washout, chemical storage, fuel tank containment, vehicle maintenance as applicable).
- ( )8. Silt fence where needed must follow contours with wire backing at stream buffers or other critical locations. Wattles (eels) should be used in rocky areas.
- ( )9. Show inlet protection at all catch basins, area drains, inlet headwalls, etc.
- ( )10. Show how all ditches, ponds, slopes at or steeper than 3:1 etc. are to be stabilized.
- ( )11. Show construction exit or note existing drive to serve as construction exit.
- ( )12. Provide a drainage schedule, showing all pipe sizes, material, length, inverts, slope; structure type and number ( to match plans).
- ( )13. Provide ditch schedule, with ditch letter (to match plans), slope, design flow (25yr or 100yr), minimum depth, minimum bottom width, side slopes, stabilization (sod, seed and straw, erosion control blanket type, or other) Concrete not desired. Typical ditch section can be used for small flows.

### **Special Detailed Plan Information**

- ( )1. Show any sinkholes on the site or offsite. If the site drains to them, provide proposed treatment or buffers. A development plan (by a licensed engineer) is required if there are any sinkholes/depressions proposed to be disturbed with notes and a detail on plan.
- ( )2. Show and label all stream top of bank and permanent buffers from top of bank (30' minor 60'for one square mile or greater watershed) with note. Permanent "Protected Stream Buffer Do Not Disturb Trees, Vegetation or Ground" signs at maximum 200' spacing shall be shown. Cross hatch buffer area.
- ( )3. Temporary construction stream buffers per state CGP (30' avg. 15' min. with impaired or Exceptional TN Water 60'avg. 30' min) shall be shown with silt fencing for protection. If less than permanent buffers justify variance and consider mitigation.
- ( )4. Show and label floodplain and floodway lines. Label 100 year flood elevation. Set minimum pad and floor elevations.
- ( )5. Show minimum FFE in or adjacent to floodplain, next to detention ponds, sinkholes or streams, on lots upstream of road low points and other locations where needed. (Slab shall be 1' above determined base flood elevation, Crawlspace and immediate exterior perimeter shall be 1' above determined base flood elevation, and Minimum Pad shall be 1' above 100 yr flood elevation or a minimum of 1' above the highest known water level in areas subject to periodic flooding or inundation)
- ( )6. Show Critical Lots with \* and note. (Over 15% slope or under 1.5% within 10' of building pad, adjacent to critical environmental area, subject to flooding or other special condition)
- ( )7. Show sediment pond with standing water per TDEC details (required for over 10 ac watershed size or 5 ac if outfall leads to impaired or high quality water). Can divert offsite flow around disturbed site to reduce watershed size.
- ( )8. Proposed 6" or larger trees to be protected in riparian buffer (25'from top of bank of stream) (4 lots or more) or replaced and protected elsewhere on the project.
- ( )9. Identify steep slopes(>35%)and identify the method of stabilization if they are disturbed.
- ( )10. For all proposed construction within an unnumbered A-zone, ad determined by the FEMA Flood Panel and County Parcel information, shall be automatically considered a Critical Lot and will require a local flood study to be undertaken by the Applicant so a base flood elevation and a minimum pad elevation can be determined. A sealed, signed copy of this study shall be provided to the Wilson County Stormwater Office for review.

### **Notes and Details**

- ( )1. "Drainage easements outside dedicated ROW's are not the responsibility of Wilson Co.
- ( )2. "No alteration of this (these) stream(s) shown or the buffer will occur prior to written approval being granted by the appropriate authorities."
- ( )3. "This property (is)(is not) in an area designated as a special flood area, as shown on Community Map/Panel Number \_\_\_\_/\_\_\_\_, effective date \_\_\_\_\_. If property is in FEMA floodplain or has been studied by the engineer with known elevations add "100 yr flood elevation for the property is \_\_\_\_\_."
- ( )4. "No cut, fill, construction or disturbance to vegetative buffer within 60' (or30') of the top of stream bank (sinkhole/depression.)" If no streams or sinkhole/depressions present the note should read "No sinkholes/depressions or streams are present on the property."
- ( )5. "To insure appropriately designed and installed drainage systems within this subdivision development, structures to be erected on the lots proposed within this subdivision shall be constructed with positive drainage, draining away from the exterior of the structure, at the following minimum threshold: 5% for a minimum distance of 10 feet from the perimeter of the structure." (site plans only)
- ( )6. "The lot(s) may have been disturbed by grading operations performed during or before development of this subdivision; the builder and/or owner should investigate the current soil conditions and consult with others to assure that a conventional footing will be adequate." (site plans only)
- ( )7. "It is the responsibility of each lot owner or builder to grade each lot so that the lots will drain the surface water, without ponding on the lot or underneath buildings" (site plans only)
- ( )8. "All work shall be done in accordance with latest TN General NPDES Permit for Construction Activities." (for sites over one acre)
- ( )9. "Tennessee One Call" note.
- ( )10. Critical lot note "Critical lots as indicated hereon must submit an individualized grading, sediment control, and stabilization plan to the County Engineer for review and stamp of approval prior to issuance of a building permit. Said plan shall be stamped by a State of Tennessee licensed professional engineer (Civil or Geotechnical) with a note of certification as to the soundness and stability of proposed structures on the property."
- ( )11. Flood study note if you perform an approximate study "100 year flood elevation of \_\_\_\_\_ determined by an approximate flood study by \_\_\_\_\_ dated \_\_\_\_\_."
- ( )12. Note general site stabilization (seed and straw, hydro seed, etc.) with details for measure.
- ( )13. Note what will be done with excess spoils and if any borrow will be needed from offsite. (Any sources of offsite borrow or disposal of spoils must be included in the SWPPP (can be updated prior to using site) or separately permitted by Wilson Co.)
- ( )14. Note how all fill under building pads and in non-structural areas is to be compacted.
- ( )15. Erosion/Sediment Control Details per TDEC's latest EPSC Handbook.
- ( )16. Drainage Details for applicable items to be used on this project.
- ( )17. "No Dumping Drains to River" or similar language permanently cast or marked on all drainage structures except headwalls.
- ( )18. Provide a note to inventory any apparent aquatic resources (including but not limited to, streams, wetlands, sinkholes/natural depressions, etc..) on or immediately adjacent to the subject property.

**Drainage/Supporting Calculations:**

- ( )1. Drainage calculations Sealed by Professional Design Engineer containing the items listed below.:
- ( )2. Drainage Network including storm piping and ditching designed for 25 yr storm event.
- ( )3. Detention design and calculations to control **2-25 year** storms with zero increase in peak discharge (Critical watersheds may require reductions) and safely pass the 100 year. Have summary table for entire site with each outfall. Green infrastructure is strongly encouraged and will be credited toward detention or may replace it, as approved on a site specific basis.
- ( )4. Water Quality calculations to remove 80% TSS from all new development sites. (The design storm is a 1-year, 24-hour storm event.) The Water Quality Treatment Volume (WQTV) is a portion of the runoff generated from impervious surfaces at the proposed project by the design storm, as set forth below. Stormwater Control Measures (SCMs) must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV. The quantity of the WQTV depends on the type of treatment provided, and the table below establishes the WQTV for four (4) treatment types:

<b>Water Quality Treatment Volume and Corresponding SCM TreatmentType (for 1-year 24-hr design storm)</b>		
<u>WQTV</u>	<u>SCM Treatment Type</u>	<u>Clarification</u>
First 1 inch Design Storm	Infiltration, Evaporation, Transpiration, Reuse	
First 1.25 inches Design Storm	Biologically Active Filtration, with an Underdrain	Biologically Active Filtration must provide minimum of 12 inches of internal water storage
First 2.5 inches Design Storm	Sand or Gravel Filtration, Settling Ponds, Extended Detention Ponds, Wet Detention Ponds	Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing Regional Detention Ponds are not subject to the forebay requirement.
Maximum Flowrate of the Design Storm	Flow-Through Manufactured Treatment Devices	Hydrodynamic separators with NJCAT verification

- a. Refer to Metro Storm Water Management Manual (LID- Volume 5) for guidance on Low Impact Development (LID). If LID is selected, the use of Metro's LID Site Design Tool is strongly encouraged. The tool can be found at the following link:(<https://www.nashville.gov/Water-Services/Developers/Low-Impact-Development.aspx>)
- ( )5. Detailed Pre and Post Development Drainage Maps which describe water shed patterns, drainage areas, ground cover (Curve Number or Coefficient) which match the proposed site plans.

- ( )6. Provide calculations and evaluation of the next downstream structure regarding each Outfall to describe Pre and Post Development Performance including but not limited to: Structure Capacity, Invert/Top of Casting Elevation, Max Water Surface Elevation, and overall functionality to ensure no adverse effects off site.
- ( )7. Gutter Spread Calculations 25 yr. minimum design storm for curb inlets. Double Inlets (Minimum) required at sag locations. Maximum 8-ft spread allowed in roadways.
- ( )8. Velocity dissipation design and calculations. Any outfall where peak flows exceed predevelopment flows must show no significant change in hydrologic regime for the stream.
- ( )9. Floodplain fill requires cut and fill calculations for balancing volumes in the floodplain.

**Other Information:**

- ( )1. Reports: SWPPP, Geotechnical (sinkhole filling), Wetland/Stream Determination, Site Assessment/Environmentally Sensitive Area/Feature inventory.
- ( )2. Storm Water Maintenance and Inspection Agreement.
- ( )3. Long Term Storm Water Maintenance Plan.
- ( )4. Engineer's Storm Water Letter of Credit Estimate. The Estimate should include but not be limited to: Temporary and Permanent Erosion Control Measures, Construction and Grading of Detention Basin(s), Installation of Detention Outlet Control Structure(s), and Site Stabilization (seed/straw, erosion matting, sod).
- ( )5. Completed Wilson County Storm Water Site/Subdivision Construction Plans Checklist (this document) Stamped by the project design Engineer.
- ( )6. Completed NOI/SWPPP Checklist – Stamped by the project design Engineer.
- ( )7. Storm Water Fee Form Completed by Project Engineer. The County will review the submitted Fee form and verify the amounts to be paid to Wilson County Stormwater.
- ( )8. Upon completion of construction, Stormwater Record Drawings shall be submitted to the Wilson County Stormwater Director, along with the Stormwater Infrastructure Certification Form for review. The Project Engineer may request more information on the Stormwater Record Drawing requirements if needed. Acceptance of the Stormwater Record Drawing must be granted by the Stormwater Director prior to release of the Letter of Credit.

Not all items apply to all projects (Check N/A).

**Wilson County Planning and Road Commission must provide separate review and approval required for all Site Plan, Subdivision, Road and Drainage improvements within the public right-of-way.**

**Acknowledgment Statement:** To the best of my knowledge, this checklist has been completed and the applicable items have been addressed, and the necessary supporting information has been provided for review.

SIGNED \_\_\_\_\_

Place Seal/Date  
In Box Shown